

CLAIMS

What is claimed as being new and desired to be protected by LETTERS PATENT of the United States is as follows:

1. A connecting rod cap separator system for displacing a rod cap from an associated main beam of a connecting rod comprising, in combination:

a connecting rod having a main beam and a rod cap with a circular aperture formed between the main beam and rod cap;

a rectilinear housing having a pair generally symmetrical side components including a first side component and second side component, each side component having an adjacent inside face, an opposed outside face, a top face, a bottom face, a pair of contact indentations, an inner tapered recess and outer tapered recess with a shaft aperture running there through, each side component have a pair of coaxial bores running through the outside face of the first side component and continuing on perpendicular to the aperture of the housing and between the inner tapered recess and outer tapered recess of the both side components, the housing being adapted to fit inside the circular aperture of the connecting rod;

a pair of support screws adapted to be positioned in the coaxial bores of the housing to allow the symmetrical sides of the housing to moving in a linear fashion toward each other when in a collapsed state and away from each other when in an expanded state;

an activation shaft comprised of a solid generally cylindrical shaft with a continuous threading along the entire

extent and having an inner end and an outer end and with a crank lever coupled to the inner end to apply rotational energy to the activation shaft during operation and use;

a pair of displacing wedges including an inner wedge and an outer wedge, each wedge having a pair of sloped faces, an exterior face, an interior face, a thrust bearing and apertures extending between the exterior face and the interior face, the aperture of the outer wedge being threaded, the aperture of the inner wedge being unthreaded, the sloped faces being adapted to lie in sliding contact against the inner tapered recess and the outer tapered recess of the housing, the apertures being adapted to receive the activation shaft such that when the activation shaft is rotated by the crank lever in one direction, the threading of the displacing wedge draw the wedges closer together thereby displacing the side components of the housing outwardly to the expanded state, and when the activation shaft is rotated by the crank lever in the opposite direction, the threading of the displacing wedge expands the wedges away from each other thereby contracting the side components of the housing inwardly to the contracted state, while the thrust bearing reduces normal friction during operation and use;

a pair of springs coupled to the adjacent inside faces of the side components of the housing and being adapted to reconfigure the system to its collapsed state as the displacing wedges are back off of each other; and

four plastic rods of a cylindrical configuration being coupled coaxially with the contact indentations of the side

components of the housing and being adapted to provide a non-marring contact surface to prevent damage to the connecting rod during operation and use.

2. A connecting rod cap separator system comprising:

a housing having a pair generally side components each with an inside face and an outside faces adapted to fit inside the circular aperture of a connecting rod;

a pair of support screws;

an activation shaft with a threading and a crank lever; and a pair displacing wedges each having a pair of sloped faces and apertures extending there through, the apertures being adapted to receive the activation shaft such that when the activation shaft is rotated by the crank lever in one direction, threading of a displacing wedge draw the wedges closer together thereby displacing the side components of the housing outwardly to an expanded state, and when the activation shaft is rotated by the crank lever in the opposite direction, threading of a displacing wedge expands the wedges away from each other thereby contracting the side components of the housing inwardly to the contracted state.

3. A connecting rod cap separator system as set forth in claim 2 and further including a pair of springs coupled to the adjacent inside faces of the side components of the housing.

4. A connecting rod cap separator system as set forth in claim 2 and further including four plastic rods of a cylindrical configuration being coupled coaxially with the contact indentations of the side components of the housing.